

Application No. 10/596,479

Response dated: October 8, 2009

Response to Office Action dated: June 10, 2009

**Listing of the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of lowering elevated plasma total homocysteine (tHcy) levels in a subject with end stage renal disease comprising administering an effective amount of Mesna, or a-derivative-thereof dimesna, to a subject having end stage renal disease (ESRD) and performing dialysis on the subject, wherein Hcy and Mesna or dimesna are removed from the plasma during dialysis.
2. (Cancelled herein)
3. (Previously Amended) The method according to claim 1, wherein by lowering the tHcy levels in the plasma of a patient with ESRD, the risk of cardiovascular-related diseases is also reduced.
4. (Previously Amended) The method according to claim 3, wherein the cardiovascular-related disease is selected from myocardial infarction, stroke, thrombosis and atherosclerosis.
5. (Original) The method according to claim 4, wherein thrombosis is a thrombotic event selected from venous thrombosis, dialysis access thrombosis and thrombotic stroke.
6. (Previously Cancelled)

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7. (Currently Amended) The method according to claim 1, wherein the dialysis is performed during or subsequent to administration of Mesna or derivative thereof dimesna.
8. (Previously Amended) The method according to claim 1, wherein the subject is human.
9. (Currently Amended) The method according to claim 1 wherein Mesna, or a derivative thereof dimesna, is administered at a dosage of about 0.5 – 180 mg/kg per week.
10. (Currently Amended) The method according to claim 8, wherein Mesna, or a derivative thereof dimesna, is administered at a dosage of about 1.0-25 mg/kg per week.
11. (Currently Amended) The method according to claim 9, wherein Mesna, or a derivative thereof dimesna, is administered at a dosage of about 7.5-15 mg/kg per week.
12. (Currently Amended) The method according to claim 8, wherein Mesna, or a derivative thereof dimesna, is administered at a dose of between about 2.5 to 5 mg/kg thrice weekly.
13. (Currently Amended) The method according to claim 1 wherein Mesna, or a derivative thereof dimesna, is administered intravenously or orally.
14. (Currently Amended) The method according to claim 1, wherein Mesna, or a derivative thereof dimesna, is administered in combination with other agents that lower

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plasma thiol levels or in combination with other types of treatment for diseases associated with elevated plasma thiol levels.

15. (Currently Amended) The method according to claim 13, wherein Mesna, or a derivative thereof dimesna, is administered in combination with B vitamins and/or folic acid

16.-18. (Previously Cancelled)

19. (New) A method of lowering elevated plasma total homocysteine (tHcy) levels in a subject with end stage renal disease comprising administering an effective amount of Mesna to a subject having end stage renal disease (ESRD) and performing dialysis on the subject, wherein Hcy and Mesna are removed from the plasma during dialysis.

20. (New) The method according to claim 19 wherein Mesna is administered at a dosage of about 0.5 – 180 mg/kg per week.

21. (New) The method according to claim 19, wherein Mesna is administered at a dosage of about 1.0-25 mg/kg per week.

22. (New) The method according to claim 19, wherein Mesna is administered at a dosage of about 7.5-15 mg/kg per week.

23. (New) The method according to claim 19, wherein Mesna is administered at a dose of between about 2.5 to 5 mg/kg thrice weekly.